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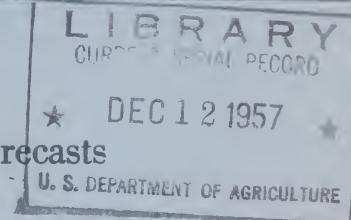
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Federal-State Cooperative
Snow Surveys and Water Supply Forecasts
for

Platte and Arkansas Drainage Basin



SOIL CONSERVATION SERVICE
UNITED STATES DEPARTMENT OF AGRICULTURE
AND
COLORADO AGRICULTURAL EXPERIMENT STATION

Data included in this report were obtained by the agencies named above in cooperation with the U. S. Forest Service, National Park Service, State Engineers of Colorado, Wyoming and New Mexico and other Federal, State and local organizations.

— AS OF —

MARCH 1, 1955

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

TO RECIPIENTS OF COOPERATIVE SNOW SURVEY
AND WATER SUPPLY FORECAST REPORTS:

Forecasts by U. S. Weather Bureau of total annual streamflow October-September, inclusive, at more than 300 gaging stations are issued monthly January through May in the publication WATER SUPPLY FORECASTS FOR THE WESTERN UNITED STATES.

Weather Bureau forecasts of runoff presented in that bulletin are computed from procedures based on mathematical analysis of the relation between precipitation and runoff.

The Weather Bureau bulletins may be secured by writing to:

Hydrologist in Charge
River Forecast Center
U. S. Weather Bureau
712 Federal Office Building
Kansas City 6, Missouri

For current information on local river and flood conditions, reference should be made to the appropriate River District Office listed below:

Climatologist.....North Platte and South
Weather Bureau Office Plate Rivers, and
Box 1079 tributaries, above
Denver 1, Colo. North Platte, Nebr.

Meteorologist in Charge.....Arkansas River and
Weather Bureau Airport Station tributaries in
Municipal Airport Colorado
Pueblo, Colorado.

Platte and Arkansas Rivers

FEDERAL-STATE COOPERATIVE
SNOW SURVEYS AND WATER SUPPLY FORECASTS
for
PLATTE-ARKANSAS RIVERS BASIN

Issued

March 10, 1955

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General Series Paper No. 604
Colorado Agricultural Experiment Station

WATER SUPPLY OUTLOOK
PLATTE-ARKANSAS DRAINAGE BASIN
March 1, 1955

The present outlook for irrigation water supply over the Platte and Arkansas Drainage Basins is fair to poor. Seasonal snow accumulation in mountain areas range from 70 to 100 percent of normal. Assuming that snowfall will be near average for the remainder of the winter, runoff is expected to be about three-quarters of normal for the 1955 irrigation season. However, streamflow is not the whole picture. In estimating the water supply, the extreme shortage in reservoir storage must be considered. The deficiency in storage from the past ten-year average is estimated at three-quarters of a million acre-feet for these two basins in Colorado and Wyoming. This is almost equal to the average annual flow of all South Platte tributaries as they emerge from the mountains. Carry-over storage is a major factor this year on all watersheds. Soil in irrigated areas is dry and streamflow is below average.

NORTH PLATTE RIVER

On the Sweetwater River, snow cover is about one-half of normal. Run-off next summer will be substantially below average.

On the North Platte Watershed there is considerable variation in seasonal snow accumulation to March 1. There is about 105 percent of normal snow cover along the Continental Divide in Colorado. This decreases rapidly in Wyoming and along the Laramie-North Platte Divide. On the average, March 1 snow surveys measured about 85 percent of normal. This is slightly better than on March 1, 1954. Inflow to Seminoe Reservoir is most likely to be about three-quarters of normal this year. Storage in the four major reservoirs on the North Platte in Wyoming now totals 960,000 acre-feet as compared to 1,250,000 acre-feet a year ago. Most of this water is assigned to the Alcova Project with very little available for the irrigated areas of eastern Wyoming and western Nebraska. Irrigation water supplies in the latter area will be dependent on 1955 summer flows supplemented by rainfall. Shortage of irrigation water may be expected.

On the Laramie River Watershed, the water supply outlook is less favorable than for the North Platte. Snow cover is about 70 percent of normal. Wheatland Reservoir is almost empty as compared with a usual carry-over of about 35,000 acre-feet. The watershed needs a lot of additional snow and rainfall within the next few months.

Soils in irrigated areas are dry and streamflow is below average.

SOUTH PLATTE

As of March 1 the seasonal snowfall on the headwaters of the South Platte and its tributaries was slightly above that for February 1 in percent of normal. As compared to March 1 a year ago there is about one-third more snow in the mountains. Last year was one of the poorest runoff years of record. The most probable snowmelt season runoff is expected to be about

three-quarters of normal for the Poudre, Big Thompson and Saint Vrain rivers. Slightly more is predicted for the Upper South Platte and Clear Creek. There is about one chance in five that any of these streams will have above normal flow.

Even if natural streamflow is well above 1954, the extreme shortage in carry-over storage, as compared to 1954 and average, points to a repetition of water shortages in 1955. Twenty-eight large municipal and irrigation reservoirs show a total storage of 225,000 acre-feet as compared to 425,000 on March 1, 1954 and nearly one-half million acre-feet for the past ten-year average. Storage is only 40 percent of the mean and one-half of a year ago. In Denver's four major reservoirs there is now stored 64,000 acre-feet as compared with 134,000 a year ago and 165,000 for a ten-year average. With less than normal streamflow expected next year, the concern for water supply for the City of Denver is well founded.

The above figures do not include reservoirs on the Colorado-Big Thompson Project. This provided about half of the water supply for the area served by Northern Colorado Conservancy District in 1954. It will be difficult to provide as much water in 1955 as in 1954 from this source. If it is provided, the project will be out of water for 1956.

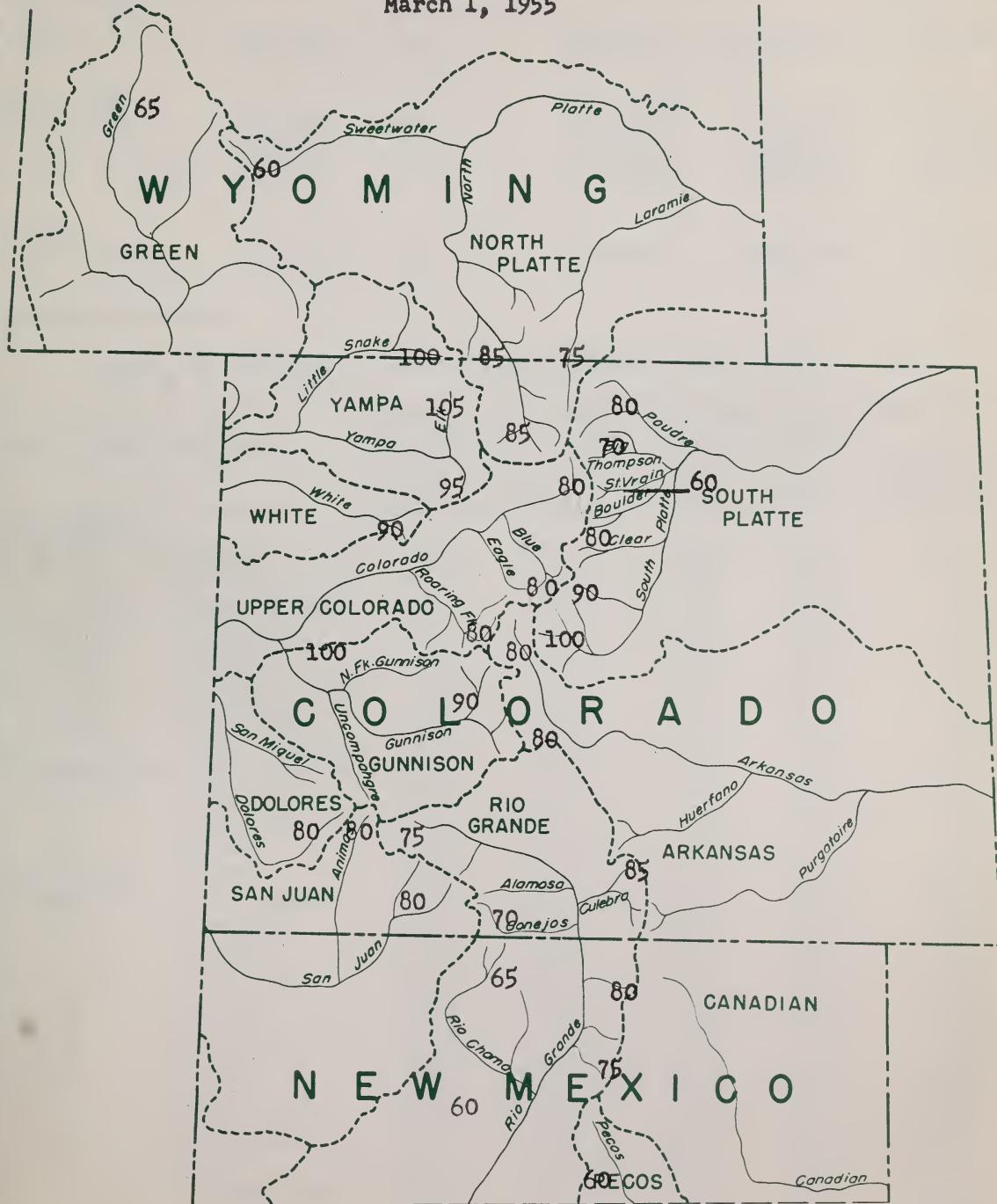
Storms during February did not improve soil moisture conditions in irrigated areas. The ground is frozen. Most of the snow was blown off of the fields and what did melt could not penetrate the soil. Streamflow over the South Platte is below average.

ARKANSAS

As of March 1, there is another year of short water supply in view for the irrigated section along the Arkansas River. Reservoir storage is about the same as a year ago. This means that there is practically no water for early irrigation which is usually necessary in the Arkansas Valley. Snow cover in the mountains above Salida improved slightly during February and is now about 80 percent of normal. Heavy snow on the Sangre de Cristo range during February has increased the seasonal snowfall from one-half to almost normal for the Huerfano, Cucharas and Purgatoire watersheds. If snowfall for the remainder of the season is near average the summer flow of the Arkansas River at Salida will be about 75 percent of normal. Water users should make plans to limit their requirements for the 1955 season. Even if mountain snowfall should be well above the usual amount during the spring months some water shortage will occur. A combination of heavy mountain snows and rains over the valley for an extended period is needed to improve the current outlook.

WATER CONTENT OF SNOW ON THE WATERSHEDS OF
PLATTE, ARKANSAS, UPPER COLORADO AND RIO GRANDE BASINS
BASED ON SNOW SURVEYS MADE APPROXIMATELY FIRST DAY OF MONTH

In Percent of Normal
March 1, 1955



PLATTE-ARKANSAS DRAINAGE BASINS
STREAM FLOW FORECASTS, March 1, 1955

BASIN AND STREAM	April-September, Incl., Streamflow, Acre Feet				
	Forecast 1955	% of 10- year average	Measured 1953	Runoff 1952	10-year avg. 1943-1952
NORTH PLATTE					
North Platte at Saratoga	525,000	73	428,000	1,053,000	718,000
SOUTH PLATTE					
Poudre at Canon	170,000*	78	114,000*	217,000*	219,000*
Saint Vrain at Lyons	65,000	71	61,000	121,000	91,000
Clear Creek at Golden	120,000	84	117,000*	170,000*	142,000*
ARKANSAS					
Arkansas at Salida	275,000*	80	320,000*	478,000*	344,000*

* Excluding Diversions

STATUS OF RESERVOIR STORAGE PLATTE-ARKANSAS BASIN, MARCH 1, 1955

BASIN AND STREAM	RESERVOIR	USABLE CAPACITY (Thous. A.F.)	THOUSANDS ACRE FEET IN STORAGE About			
			March 1, 1955			10-year Avg. 1943-1952
MISSOURI RIVER						
Poudre River	Windsor	18.6	2.8	4.5	9.2	10.1
" "	Cache la Poudre	9.5	4.0	5.4	6.1	6.8
" "	Fossil Creek	11.6	2.8	4.8	6.9	7.2
" "	Terry Lake	8.2	2.8	4.1	4.1	4.2
" "	Halligan	6.4	2.3	1.8	2.7	1.6
" "	Chamber's Lake	8.8	1.2	1.2	0.7	2.0
" "	Cobb Lake	34.3	0.0	7.0	11.2	6.4
" "	Black Hollow	8.0	0.9	3.4	4.2	3.6
Big Thompson River	Lake Loveland	14.3	4.9	7.6	7.0	5.3
" " "	Boyd Lake	44.0	0.0	8.7	16.9	22.5
" " "	Lone Tree	9.2	6.4	7.0	6.1	5.5
" " "	Mariano	5.4	0.3	3.0	3.7	2.2
St. Vrain River	Union	12.7	1.0	6.1	9.1	8.0
South Platte River	Eleven Mile	81.9	17.3	81.9	81.9	81.0
" " "	Cheeseman	79.0	23.9	26.7	54.5	55.6
" " "	Marston	18.9	13.0	15.4	14.5	14.3
" " "	Barr Lake	32.2	12.6	15.1	18.8	22.6
" " "	Milton	24.4	0.0	3.9	12.4	12.8
" " "	Standley	18.5	0.0	6.3	9.8	11.0
" " "	Marshall	10.3	0.0	0.6	1.2	2.1
" " "	Antero	33.0	10.2	10.2	10.2	18.3
" " "	Horse Creek	20.6	13.3	9.9	13.0	10.9
" " "	Riverside	57.5	17.6	40.9	50.4	48.8
" " "	Empire	37.7	6.5	28.1	31.2	30.2
" " "	Jackson Lake	35.4	26.5	33.2	29.5	31.1
" " "	Prewitt	32.8	7.0	11.2	21.0	24.0
" " "	Point of Rocks	70.0	30.4	46.3	50.0	57.6
" " "	Julesburg	28.2	21.2	21.2	21.1	20.3

CELESTE GUARANI PARAGUAY-URUGUAY
1991 (I should eliminate year and title)

1991 CEEA 1991 INCOME AND EXPENSES

BUDGET OF CEEA

1991 CEEA 1991 INCOME AND EXPENSES

BUDGET OF CEEA

1991 CEEA 1991 INCOME AND EXPENSES

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1991 CEEA 1991 INCOME AND EXPENSES

BUDGET OF CEEA

RESERVOIR STORAGE, Cont.

BASIN AND STREAM	RESERVOIR	USABLE CAPACITY (Thous. A.F.)	THOUSANDS ACRE FEET IN STORAGE About March 1, 1955				10-year Avg.* 1943-1952
			1955	1954	1953		
North Platte River	Kingsley	2180.0	1150.9	1530.0	1735.0	1317.2	
" " "	Minatare	50.8	19.3	32.3	23.8	23.1	
" " "	Alcova	190.0	171.6	166.6	155.2	95.6	
" " "	Seminoe	1025.0	322.0	245.0	624.5	437.5	
" " "	Guernsey	46.0	22.5	14.7	42.9	39.0	
" " "	Pathfinder	1045.5	447.1	846.5	793.1	517.9	
" " "	Sutherland	185.0	51.1	51.0	52.8	52.1	
Laramie River	Wheatland	98.9	1.2	10.4	26.1	39.1	
ARKANSAS RIVER							
Arkansas River	Twin Lakes	54.5	13.9	13.3	25.2	26.8	
" "	Sugar Loaf	17.4	5.3	5.2	5.4	8.7	
" "	Clear Creek	11.4	1.6	0.6	2.0	6.1	
" "	Meredith	41.9	0.0	0.0	0.0	21.6	
" "	Horse Creek	26.9	0.0	0.0	0.0	11.2	
" "	Adobe Creek	61.6	0.0	0.0	0.0	32.5	
" "	Cucharas	40.0	0.0	0.0	0.0	5.8	
" "	John Martin	655.0	4.9	13.1	16.9	69.4	
" "	Great Plains	150.0	0.0	0.0	2.4	76.5	
Purgatoire River	Model	15.0	1.7	1.7	1.2	3.0	
COLORADO-BIG THOMPSON							
Blue River	Green Mt.	146.9	45.2	75.6	99.5	68.1	
Colorado River	Granby	467.5	179.7	396.8	431.2	--*	
Poudre River	Horsetooth	143.5	83.9	119.0	119.0	--*	
Big Thompson	Carter	112.4	54.0	75.5	--	--*	

*Some for shorter periods

PLATTE-ARKANSAS DRAINAGE BASINS
SUMMARY OF MARCH 1 SNOW SURVEYS
AND COMPARISON OF DATA WITH THAT
OF PREVIOUS YEARS

March 1, 1955

WATERSHEDS	No. of Courses Averaged	Years of Record	March 1, 1955 Water Contents as percent of		
			1954	1953	Average
PLATTE RIVER					
Sweetwater	3	6-18	86	102	82
North Platte River	15	5-19	130	86	84
Laramie River	8	6-18	113	69	75
South Platte River*	5	5-18	138	--	106
Poudre River	7	5-18	117	87	81
Big Thompson River	4	4-17	95	65	57
St. Vrain River	3	5-18	64	47	43
Boulder Creek	3	5-18	122	69	73
Clear Creek	4	4-18	113	65	71
ARKANSAS RIVER	7	5-19	103	79	76
COLORADO-BIG THOMPSON					
Colorado River**	6	6-19	121	79	76
Willow Creek	3	6-19	114	80	72
Frazer River	5	4-19	132	79	77
Blue River	7	4-19	94	69	62

* Above Denver

** Above Granby

PRECIPITATION DATA

WATERSHED	STATE	Precipitation* Oct 1 to February 28	Departure	Precipitation* February	Departure
			from Normal		from Normal
		Inches	Inches	Inches	Inches
North Platte	Wyoming	3.10	- 1.46	0.56	- 0.54
South Platte	Colorado	2.30	- 0.98	0.50	- 0.09
Arkansas	Colorado	3.10	- 0.70	1.20	+ 0.39

* Average selected high elevation stations

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PLATTE-ARKANSAS RIVERS SNOW SURVEYS
March 1, 1955

Drainage Basin and Snow Course	Number	Elev.	Snow Cover Measurements						Years of Record	
			1955			Past Record				
			Date of Survey	Snow Depth (In.)	Water Content (In.)	Water Content (In.)	1954	1953	Average	
PLATTE RIVER										
SWEETWATER RIVER										
Grannier Meadows	8G4	9000	3/5	48	12.5	13.5	11.1	11.6		18
South Pass*	8G3	9000	3/5	47	11.8	14.6	12.3	11.6		15
Larsen Creek	9G6	9000	2/27	19	3.6	4.2	4.0	10.6		6
NO PLATTE RIVER										
Cameron Pass (a)	5J1	10300	Est	45	13.0	11.7	15.9	16.1		18
Park View	6J2	9200	7/29	30	5.1	4.9	6.5	7.7		19
Columbine Lodge	6J3	9300	3/2	59	20.7	11.1	19.2	18.4		19
Willow Cr. Pass*	6J5	9500	2/29	33	7.8	7.0	9.2	10.2		17
Northgate	6J7	8500	2/29	20	4.0	3.5	5.0	5.3		5
Bottle Creek	6H8	8200	3/1	37	10.0	9.2	11.7	11.3		17
Webber Spring	6H9	9000	3/1	44	12.2	8.8	13.4	14.4		17
Old Battle	6H10	9800	3/1	62	19.6	16.0	20.2	25.2		18
N.French Creek	6H4	10200	2/28	64	19.0	16.3	18.8	22.7		17
N.Barrett Creek	6H5	9400	2/28	51	13.2	9.9	14.4	14.1		18
Ryan Park	6H6	8400	2/28	37	9.0	4.4	8.7	8.5		18
Spring Creek	6H7	9000	2/25	34	9.3	7.9	NS	15.2		5
Albany	6H11	9400	2/26	33	8.3	6.6	13.0	12.6		6
La Bonte	5G2	8450	2/25	26	5.8	3.8	6.2	7.3		6
Boxelder	5G1	9000	3/1	25	5.3	3.9	9.5	4.7		5
LARAMIE RIVER										
Roach (a)	6J8	9800	Est	50	13.5	12.6	NS	14.9		14
Deadman Hill(a)	5J6	10200	Est	37	8.5	10.5	9.5	11.1		18
Brooklyn Lake	6H1	10200	3/1	50	14.0	12.7	22.6	19.3		18
Fox Park	6H12	9200	2/28	18	4.1	1.4	6.3	5.7		18
Pole Mtn. #2*	5H1	8700	3/2	18	4.5	1.1	5.6	4.0		18
Libby Lodge	6H3	8700	3/1	24	5.3	5.9	10.0	8.2		17
Hairpin Turn	6H2	9500	3/1	25	5.5	6.0	11.1	9.1		17
Albany	6H11	9900	2/26	33	8.3	6.6	13.0	12.6		6
POUDRE RIVER										
Cameron Pass (a)	5J1	9400	Est	45	13.0	11.7	15.9	16.1		18
Chamber Lake	5J2	10300	2/26	23	6.2	2.5	5.1	6.0		18
Big South	5J3	8600	2/26	5	1.3	0.6	1.5	2.0		17
Deadman Hill (a)	5J6	10200	Est	38	8.5	10.5	9.5	11.1		18
Lake Irene*	5J10	10600	2/26	47	12.7	13.2	18.4	17.6		17
Hour Glass Lake	5J11	9500	3/1	16	4.9	3.4	4.1	5.7		15
Red Feather	5J20	9000	2/28	24	6.5	3.6	6.3	7.3		5
Last Lake	5J23	9300	2/26	25	6.8	6.3	NS	—		3

PLATTE-ARKANSAS RIVERS SNOW SURVEYS
March 1, 1955

Drainage Basin and Snow Course	Number	Elev.	Snow Cover Measurement						Years of Record
			1955			Past Record			
			Date of Survey	Snow Depth (In.)	Water Content (In.)	Water Content (In.)	1954	1953	Average
BIG THOMPSON RIVER									
Lake Irene*	5J10	10600	2/26	47	12.7	13.2	18.4	17.6	17
Hidden Valley	5J13	9550	2/28	30	5.5	6.2	8.1	9.1	14
Deer Ridge	5J17	9050	2/28	14	2.4	1.0	4.2	5.2	6
Longs Peak	5J22	10500	2/25	22	3.9	5.0	7.0	11.0	4
Two-Mile	5J26	10400	2/28	35	7.3	8.2	10.2		3
ST. VRAIN RIVER									
Wild Basin	5J5	10000	3/1	29	5.4	8.2	10.8	10.7	18
Copeland Lake	5J18	8600	2/28	10	2.1	2.2	4.8	5.3	6
Ward	5J21	9500	3/1	14	2.1	4.7	4.8	6.2	5
BOULDER CREEK									
E.Port.Moffat T.	5K1	9400	2/28	9	2.6	1.7	3.6	3.6	18
University Camp	5J8	10300	2/26	32	14.4	12.6	20.2	16.7	17
Moffat	5J12	9400	2/28	16	4.5	3.5	7.3	9.4	5
Boulder Falls	5J25	10000	2/26	26	7.5	9.6	12.3		3
CLEAR CREEK									
Loveland Pass	5K5	10600	2/23	38	9.7	7.3	15.7	11.1	18
Grizzly Peak*	5K9	11250	2/23	32	8.1	9.7	12.2	14.5	13
Empire	5K10	9650	2/27	22	4.7	3.7	7.1	6.3	6
Berthoud Falls	5K13	10500	2/27	35	9.0	7.4	13.7	12.8	4
Clear Creek	5K17	11200	2/23	39	9.8	8.5	13.1		3
SOUTH PLATTE RIVER									
Hoosier Pass	6K1	11400	2/28	36	9.0	8.5	10.8	9.1	18
Fairplay	6K2	10000	2/28	18	2.7	0.0	2.8	1.0	17
Jefferson Cr.	5K8	10100	2/28	38	6.7	7.0	NS	6.4	15
Geneva Park	5K11	9750	3/1	14	3.1	1.2	NS	4.7	5
Antero	5L1	9200	2/28	19	4.2	1.7	1.4	2.8	6
ARKANSAS RIVER									
Tennessee Pass	6K2	10200	3/1	30	7.1	5.2	7.6	7.6	19
Twin Lakes T.	6K3	10500	2/26	29	5.5	7.0	7.6	6.7	17
La Veta Pass*	5M1	9300	2/28	26	7.1	6.1	8.9	7.7	17
4-Mile Park	6K7	9700	3/1	15	4.2	2.8	3.0	3.3	16
Fremont Pass	6K8	11400	2/24	41	8.6	9.8	12.2	12.8	19
Monarch Pass	6L4	10500	3/1	41	10.8	9.9	13.1	14.0	13
St. Elmo (a)	6L5	10600	2/27	26	6.2	7.5	NS	11.0	5
Timberline	6K11	11100	NS	NS	NS	11.3	17.1	17.5	6
Westcliffe	5L2	9000	3/1	25	6.2	2.6	3.8	--	2
Cooper Hill	6K16	10600	2/24	21	4.6	4.9	NS	--	2
East Fork	6K17	10700	2/24	25	4.9	4.2	NS	--	2

*On adjacent drainage

NS - No survey

PLATTE-ARKANSAS RIVERS SNOW SURVEYS
March 1, 1955

Drainage Basin and Snow Course	Number	Elev.	Date of Survey	Snow Cover Measurements					Years of Record
				1955		Past Record			
				Snow Depth (In.)	Water Content (In.)	Water Content (In.)	1954	1953	Average

COLORADO-BIG THOMPSON PROJECT

COLORADO RIVER**

Cameron Pass*(a)	5J1	10300	Est.	45	13.0	11.7	15.9	16.1	18
Phantom Valley	5J4	9300	2/25	30	7.2	4.3	9.3	8.7	19
Lulu	5J7	10200	2/27	42	9.8	7.8	11.2	13.4	17
N.Inlet Grand L.	5J9	9000	2/27	28	6.0	4.4	NS	7.6	16
Lake Irene	5J10	10600	2/26	47	12.7	13.2	18.4	17.6	17
Grand Lake	5J19	8600	2/25	29	5.6	3.5	6.3	7.8	6

WILLOW CREEK

Park View*	6J2	9200	2/29	30	5.1	4.9	6.5	7.7	19
Willow Creek	6J5	9500	2/29	33	7.8	7.0	9.2	10.2	17
Granby	5J16	8700	2/27	23	4.3	3.0	5.6	5.9	6

FRAZER RIVER

Berthoud Pass	5K3	9700	3/1	39	8.9	8.0	12.3	12.3	19
Arrow	5K6	9900	3/1	31	6.5	4.7	7.7	7.8	17
Lapland	5K7	9500	3/2	35	7.9	5.9	9.3	9.6	15
Berthoud Summit	5K14	11300	2/26	48	12.5	9.6	15.1	15.2	4
Frazer View	5K15	10600	2/26	30	7.3	4.5	10.1	10.5	4

BLUE RIVER

Hoosier Pass	6K1	11400	2/28	36	9.0	8.5	10.8	9.1	18
Fremont Pass	6K8	11400	2/24	41	8.6	9.8	12.2	12.8	19
Shrine Pass	6K9	10500	2/24	39	8.7	10.5	13.4	13.6	13
Grizzly Peak	5K9	11250	2/23	32	8.1	9.7	12.2	14.5	13
Frisco	6K13	9300	2/25	22	4.5	4.1	7.0	8.2	4
Snake River	5K16	9700	2/25	22	4.4	3.8	7.7	9.2	4
Summit Ranch	6K14	10000	2/25	26	4.0	3.7	5.1	8.7	4

*On adjacent drainage

**Above Granby Reservoir

(a) Air observed

NS - No survey

LIST AND LOCATION OF SNOW COURSES
Platte, Arkansas, Colorado
and Rio Grande Drainages

No.	State	Name	Sec.	Twp.	Rge.	Elev.	No.	State	Name	Sec.	Twp.	Rge.	Elev.
<u>Cheyenne</u>								<u>Upper Colorado</u>					
5E1	SD	Upper Spearfish	21	3N	1E	6500	5J4	C	Phantom Valley	7	5N	75W	9300
		<u>North Platte</u>					5K3	C	Berthoud Pass	35	2S	75W	9700
6J2	C	Park View	24	5N	78W	9200	5K4	C	M.F. Camp Ground	18	3S	77W	9000
6J3	C	Columbine	21	5N	82W	9300	5K5	C	Fiddler Gulch	1	8S	80W	11000
6J7	C	Northgate	7	11N	79W	8500	5J7	C	Lulu	25	6N	76W	10200
6H4	W	No. French Creek	27	16N	80W	10200	6J5	C	Willow Creek Pass	1	4N	78W	9500
6H5	W	No. Barrett Creek	30	16N	80W	9400	5J9	C	N. Inlet Grand Lake	26	4N	75W	9000
6H6	W	Ryan Park	34	16N	81W	8400	5J10	C	Lake Irene	8	5N	75W	10600
6H7	W	Spring Creek	32	15N	85W	9000	5K6	C	Arrow	34	1S	75W	9900
6H8	W	Bottle Creek	24	14N	85W	8200	5K7	C	Lapland	16	2S	76W	9500
6H9	W	Webber Springs	27	14N	85W	9000	6K3	C	Fremont Pass	2	8S	76W	11400
6H10	W	Old Battle	29	14N	85W	9800	6J6	C	Lynx Pass	27	2N	88W	9100
6H11	W	Albany	18	14N	78W	9400	6K9	C	Shrine Pass	15	6S	79W	10500
6H13	W	Pearl	18	12N	82W	8900	5K9	C	Grizzly Peak	2	5S	76W	11250
		<u>Laramie</u>					5K10	C	Glen-Mar Ranch	31	2S	77W	8850
							5J14	C	Monarch Lake	30	2N	74W	8500
							5J16	C	Granby	11	2N	77W	8700
5J12	C	Roach	5	10N	77W	9800	5J19	C	Grand Lake	36	4N	76W	8600
5J15	C	McIntyre	35	10N	76W	9100	5K14	C	Berthoud Summit	10	2S	76W	11300
6H1	W	Brooklyn Lake	11	16N	78W	10200	5K15	C	Frazer View	34	2S	75W	13600
6H2	W	Hairpin Turn	24	16N	79W	9500	6J11	C	Gore Pass	2	1N	82W	8900
6H3	W	Libby Lodge	29	16N	78W	8900	6K13	C	Frisco	18	6S	78W	9300
6H12	W	Fox Park	21	13N	78W	9200	5K16	C	Snake River	9	5S	76W	9700
		<u>Sweetwater</u>					6K14	C	Summit Ranch	8	4S	78W	10000
8G3	W	South Pass	13	30N	101W	9000	5J24	C	Milner Pass	7	5N	75W	10100
8G4	W	Grannier Meadows	19	30N	100W	9000	6K15	C	Vail Pass	28	5S	79W	10000
9G6	W	Larsen Creek	12	30N	103W	9000	6K18	C	Kokomo	23	7S	79W	10600
		<u>Laramie Peaks District</u>					6K19	C	Pando	10	7S	80W	9500
		<u>South Platte</u>							<u>Roaring Fork</u>				
5G1	W	Boxelder	11	27N	74W	8450	6K4	C	Ind. Pass Tunnel	37	11S	82W	10700
5G2	W	LaBonte	31	30N	75W	9000	7K1	C	North Lost Trail	20	11S	87W	9200
							6K6	C	Nast	1	9S	83W	8700
							6K10	C	Ivanhoe	12	9S	82W	10400
							6K12	C	Ruby	1	12S	83W	11500
									<u>Yampa</u>				
5J1	C	Cameron Pass	2	6N	76W	10300	6J1	C	Dry Lake	26	7N	84W	8300
5J2	C	Chambers Lake	6	7N	75W	9000	6J4	C	Elk River	21	5N	82W	9300
5J3	C	Big South	33	8N	75W	8600	6J8	C	Routt Line	13	5N	83W	9700
5K1	C	East Portal	2	2S	74W	9400	6J9	C	Rabbit Ears	30	5N	83W	9550
5K1	C	Hoosier Pass	13	8S	78W	11400	6J10	C	Yampa View	21	5N	84W	8500
5K2	C	Fairplay	33	9S	77W	10000							
5J5	C	Wild Basin	24	3N	74W	10000							
5J6	C	Deadman Hill	26	10N	75W	10200							
5J8	C	University Camp	26	1N	75W	10300							
5K5	C	Loveland Pass	27	4S	76W	10600							
5J11	C	Hour Glass Lake	18	7N	75W	9500	7K2	C	Burro Mountain	15	2S	91W	9000
5K8	C	Jefferson Creek	14	7S	76W	10100	7J1	C	Rio Blanco	28	1N	88W	8500
5J13	C	Hidden Valley	23	5N	75W	9550							
5J17	C	Deer Ridge	19	5N	75W	9050							
5J18	C	Copeland Lake	21	3N	73W	8600	7K4	C	Mesa Lakes	35	11S	96W	10000
5K10	C	Empire	21	3S	75W	9650	7K5	C	Trickle Divide	23	11S	94W	10000
5K11	C	Geneva Park	18	6S	74W	9750							
5L1	C	Antero	1	12S	77W	9200							
5J20	C	Red Feather	26	10N	74W	9000	6L1	C	Crested Butte	22	13S	86W	9000
5K12	C	Moffatt	2	2S	74W	9400	6L2	C	Park Cone	19	14S	82W	9700
5J21	C	Ward	1	1N	75W	9500	7K3	C	Alexander Lake	2	12S	25W	10000
5K13	C	Berthoud Falls	16	3S	75W	10800	7L1	C	Snowshoe Mesa	14	13S	89W	7500
5J22	C	Longs Peak	32	4N	73W	10500	7M6	C	Ironton Park	29	4S	7W	9800
5J23	C	Lost Lake	32	8N	75W	9300	7K6	C	Park Reservoir	34	11S	94W	9500
5K17	C	Clear Creek	27	4S	76W	11200	6L3	C	Porphyry Creek	19	49N	6E	10800
5J25	C	Boulder Falls	26	1N	73W	10000	7K7	C	Kannah Creek	5	12S	95W	10700
5J26	C	Two Mile	22	5N	74W	10500	7M8	C	Lake City	18	43N	4W	10300
5H1	W	Pole Mountain	35	15N	72W	8700	7K8	C	McClure Pass	1	11S	89W	9500
							7M15	C	Red Mountain	13	42N	8W	11000
		<u>Arkansas</u>											
5K2	C	Tennessee Pass	21	8S	80W	10200							
5K3	C	Twin Lakes Tunnel	22	11S	82W	10500							
5M1	C	LeVeta Pass	22	28S	70W	9300	5M3	C	Upper San Juan	10	37N	1E	10000
5K7	C	Four Mile Park	23	11S	81W	9700	7M4	C	Silverton	10	41N	7W	9400
5M2	C	Blue Lakes	30	31S	69W	10000	7M5	C	Cascade	12	39N	9W	8850
6L4	C	Monarch Pass	16	49N	6E	10500	7M7	C	Granite Peaks	23	37N	6W	7950
6L5	C	Saint Elmo	31	15S	80W	10600	7M10	C	La Plata	4	36N	11W	9700
5K11	C	Timberline	8	9S	81W	11100	7M11	C	Spud Mountain	32	40N	8W	10700
5K16	C	Cooper Hill	2	8S	80W	10600	7M12	C	Molas Lake	7	40N	7W	10500
5K17	C	East Fork	9	8S	79W	10700	7M13	C	Howardville	15	41N	7W	9800
5L2	C	Westcliffe	19	22S	73W	9000	7M14	C	Mineral Creek	35	42N	8W	10300

LIST AND LOCATION OF SHOW COURSES (CONTINUED)

No.	State	Name	Sec.	Twp.	Rge.	Elev.	No.	State	Name	Sec.	Twp.	Rge.	Elev.
<u>Dolores</u>													
7M1	C	Rico	11	39N	11W	8700	8S2	NM	Inman	6	11S	10W	7800
7M2	C	Telluride	6	42N	0W	8600	9S4	A	Nutrioso	23	6N	30E	8500
7M3	C	Lizard Head	24	41N	10W	10300	9S6	A	Beaver Head	13	4N	30E	8000
7M4	C	Trout Lake	8	41N	0W	9700	9S7	A	Coronado Trail	26	5N	30E	8000
							10T2	A	Rose Canyon	15	12S	16E	7500
							10T1	A	Bear Wallow	6	12S	16E	8100
<u>Green</u>													
9G1	W	Mulligan Park	17	35N	108W	8900							
9G5	W	Dutch Joe	35	31N	104W	8700							
10F16	W	Kendall R.S.	23	38N	110W	7900	9R2	A	McNary	14	8N	23E	7200
10F18	W	Loomis Park	14	37N	111W	8600	10R6	A	Forest Dale	2	9N	21E	6000
10G9	W	Snyder Basin R.S.	15	29N	114W	8010	9R1	A	Milk Ranch	28	8N	23E	7000
10G10	W	Piney LaBarge	19	29N	114W	8820	9S5	A	Pachete				
							9R5	A	Fort Apache	18	7N	27E	9000
							9S1	A	Baldy	28	7N	27E	9000
							9S2	A	Maverick Park	13	6N	27E	9050
							10S1	A	Workman Creek	33	6N	14E	5880
<u>UTAH</u>													
<u>Upper Green River in Utah</u>													
10J4	U	Hewinta Ranger Station	33	3N	13E	9500							
10J1	U	Hole-in-the-Rock	13	2N	15E	9100							
10J2	U	Middle Beaver Creek	31	3N	16E	8550							
10J3	U	Hole-in-the-Rock R.S.	32	3N	16E	8500	10P2	A	Fort Valley	22	22N	2E	7350
9J1	U	Kings Cabin (Upper)	22	1S	21E	8800	11R4	A	Mormon Lake	18	18N	6E	7350
8J2	U	Kings Cabin (Lower)	23&26	1S	21E	8600	11R3	A	Mormon Mountain	14	18N	8E	7500
<u>Duchesne River</u>													
10J8	U	Trail Lake	5	2S	9E	9800	12P1	A	Camp Wood	3	16N	6W	5700
11J23	U	Daniels-Strawberry S.	20	2S	12W	8000	11P3	A	Antelope Park	29	19N	8E	7300
11J6	U	Strawberry Divide	34-35	7S	8E	8000	11P2	A	Casner Park	19	18N	8E	6550
11J7	U	East Portal	36	7S	6E	7540	11S1	A	Munds Park	7	18N	7E	6500
10K1	U	Indian Canyon	2	11S	10E	9100							
10J9	U	Brown Duck Lake	5	2N	6W	10600							
10J10	U	Lakefork Mountain	2&3	2N	5W	10600	12P2	A	Iron Springs	22	14N	3W	6000
10J11	U	Lakefork Mountain #2	17	2N	4W	8900	13P1	A	Willow Ranch	1*	21N	11W	5000
10J12	U	Lakefork Mountain #3	29	2N	4W	8100							
9J3	U	Paradise Park	7	3N	1E	10500	1P1	A	Chalender	27	22N	3E	7100
9J5	U	Mosby Mountain (lower)	6	2N	1E	9500	11P1	A	Grand Canyon	21	30N	4E	7500
							12N1	A	Bright Angel	34	33N	4E	8400
<u>Price River</u>													
11K5	U	Huntington-Herschel	12	14S	5E	9800	6M1	C	Rio Grande (Colorado)				
11K4	U	Gooseberry Reservoir	25	15S	5E	8700	6M2	C	Wolf Creek Pass	4	37N	2E	10000
11K3	U	Mammoth R.S. - Cottonwood Cr.	13-25	13S	5E	8500	6M4	C	Upper Rio Grande	13	40N	4W	9350
11K6	U	Mud Creek	4	14S	7E	8250	6M6	C	Silver Lakes	15	36N	5E	9500
11K7	U	Staley Ranch	32	12S	7E	7800	6M7	C	River Springs	25	35N	6E	9500
11K8	U	Dry Valley Divide	20	12S	6E	7800	6M8	C	Summitville	30	37N	4E	11500
							6M7	C	Cumbres Pass	17	32N	5E	10000
							6M6	C	Santa Maria	8	41N	2W	9700
							6M3	C	Calebra	37.2N	105.2W		10000
							6M4	C	Fort Garland	18	29N	7W	8200
11K9	U	Seeley Creek RS #2	28	17S	4E	10000	6M5	C	Platano	22	36N	4W	9350
							6M10	C	West Conejos	25	35N	4E	9450
							6M11	C	LaManga	11	33N	5E	10000
							6M12	C	Pyramid	26	41N	3W	10500
11K14	U	Black Fork	34	20S	4E	9200	6M13	C	Spring Creek Pass	2	42N	3W	10900
11K15	U	Dills Camp	27	20S	4E	8200	6M14	C	Pool Table Mt.	19	41N	2E	10000
							6M15	C	Lake Humphrey	32	40N	1E	9300
							6L6	C	Cochetopa Pass	12	45N	3E	10000
							6M16	C	Pereopine	2	41N	3W	10400
							6M17	C	Wolf Creek Summit	6	37N	2E	11000
<u>San Rafael River</u>													
11K9	U	Seecley Creek RS #2	28	17S	4E	10000							
<u>Muddy River</u>													
11K14	U	Black Fork	34	20S	4E	9200							
11K15	U	Dills Camp	27	20S	4E	8200							
<u>Fremont River</u>													
11L3	U	Fish Lake	35	26S	1E	8700	6L6	C	Lake Humphrey	32	40N	1E	9300
11L4	U	Black's Flat-U.M.Cr.	33	24S	3E	9200	6L7	C	Cochetopa Pass	12	45N	3E	10000
11L5	U	Donkey Reservoir	9	30S	4E	9500	6L8	C	Pereopine	2	41N	3W	10400
							6L9	C	Wolf Creek Summit	6	37N	2E	11000
<u>Escalante River</u>													
11M1	U	Widtso-Escalante Sum.	22	34S	1W	9500	5N1	NM	Rio Grande (New Mexico)				
11M2	U	Widtso-Escalante #2	22	34S	1W	9500	5N2	NM	Red River	29	28N	15E	9500
							5P1	NM	Taos Canyon	10	25N	15E	9000
							5N3	NM	Aspen Grove	12	18N	10E	9100
							5N4	NM	Hematite Park	8	28N	15E	9500
							5N5	NM	Tres Ritos	23	22N	13E	9000
							5N6	NM	Payrole	16	28N	7E	9700
							5P2	NM	Chama Divide	36.3N	106.7W		7750
							5N7	NM	Chamita	36.3N	106.7W		8500
							5V5	NM	Cordova	22	22N	13E	10100
							5P3	NM	Panchuela	27	18N	12E	8300
							5P4	NM	Big Tesuque	17	18N	11E	10000
							5P5	NM	Elk Cabin	8	18N	11E	8250
							5P6	NM	Rio En Medio	8	18N	11E	10400
							6P1	NM	Quemazon	34	20N	5E	9300
							6P4	NM	Bateman	5	26N	6E	9300
							6P2	NM	Fenton Hill	18	19N	3W	8900
<u>Virgin River</u>													
12M6	U	Long Valley Jct	22	38S	6W	7800							
12M5	U	Harris Flat R.S.	24	38S	7W	7700							
12M4	U	Duck Creek R.S.	11	38S	5W	7500							
12M2	U	Midway Valley	26	37S	5W	7400							
12M1	U	Cedar Breaks	2	37S	9W	7300							
12M3	U	Webster Flat	20	37S	9W	9300							
13M1	U	Pine Valley	3	40S	1E	7100							
<u>Lower Colorado River (Southeastern Utah)</u>													
9L1	U	LaSal Mountain	5	27S	24E	8800							
9M1	U	Buckboard Flat	36	33S	22E	9000							
<u>Gila (Arizona)</u>													
7S1	NM	Frisco Divide	21	6S	20W	8000							
7S2	NM	State Line	5	6S	21W	8000							
8S1	NM	Taylor Creek	20	10S	10W	7800							

Federal - State - Private
COOPERATIVE SNOW SURVEYS

—
Furnishes the basic data
necessary for forecasting
water supply for irrigation,
domestic and municipal water
supply, hydro-electric power
generation, navigation,
mining and industry

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"WATER IS THE WEST'S GREATEST RESOURCE"